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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,185	11/21/2003	Vladimir I. Slepnev	19781/2035	3232

7590 04/30/2007

Mark J. FitzGerald
EDWARDS ANGELL PALMER & DODGE LLP
P. O. Box 55874
Boston, MA 02205

EXAMINER	
HORLICK, KENNETH R	

ART UNIT	PAPER NUMBER
1637	

MAIL DATE	DELIVERY MODE
04/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/719,185	SLEPNEV, VLADIMIR I.	
	Examiner	Art Unit	
	Kenneth R. Horlick	1637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-35 and 38-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4-35, and 38-63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4-35, and 38-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiesner (Nucleic Acids Res. 1992) in view of Schumm et al. (US 6,479,235).

These claims are drawn to methods of quantitatively amplifying a plurality of nucleic acids, wherein an aliquot of the amplification mixture is dispensed or withdrawn at plural stages during the amplification regimen, further wherein at least five different amplification templates are used, and in some embodiments wherein capillary electrophoresis is utilized for separation.

Wiesner teaches methods of quantitatively amplifying a plurality of nucleic acids, wherein an aliquot of the amplification mixture is dispensed or withdrawn at plural stages during the amplification regimen; see entire document on pages 5863-5864.

Wiesner does not disclose use of at least five different amplification templates, nor the use of capillary electrophoresis for nucleic acid separation.

Schumm et al. disclose the well-known technique of multiplex amplification wherein a plurality of different nucleic acid targets (at least thirteen; see abstract) are simultaneously amplified, and that electrophoresis, preferably capillary electrophoresis, is used to separate the different products produced in multiplex amplification (see column 14, lines 52-64).

One of ordinary skill in the art would have been motivated to use a plurality of amplification targets, such as at least five, as well as the technique of capillary electrophoresis, in the method of Wiesner, because the advantages of both multiplex amplification and capillary electrophoresis were well known and common knowledge in the art, as demonstrated by Schumm et al. In other words, the skilled artisan considering these references would have been motivated to apply multiplex amplification and capillary electrophoresis as taught by Schumm et al. in the method of Wiesner to provide the obvious advantage of facilitating quantitative amplification profiles of large numbers of target nucleic acids. It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to carry out the claimed methods.

2. Claims 35 and 38-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiesner in view of Brenner (US 6,228,589), and further in view of Schumm et al.

These claims are drawn to methods similar to those discussed and rejected above, wherein two amplification reactions corresponding to two gene expressing entities are carried out, and the resulting expression or transcription profiles are compared.

The teachings of Wiesner and Schumm et al. are discussed above.

Neither of these references teaches comparison of gene expression or transcription profiles from two different gene expressing entities.

Brenner discloses methods of measurement of gene expression profiles for use in toxicity screening, comprising comparing gene expression profiles from two different gene expressing entities (test vs. control organisms)(see column 5, line 66 to column 6, line 20).

One of ordinary skill in the art would have been motivated to carry out the method of Wiesner using two different gene expressing entities and comparing the resulting expression profiles, because as taught by Brenner such a comparison of gene expression profiles provides valuable information on the different states of the two entities, for example regarding toxicity after drug exposure. It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to carry out the claimed methods.

3. With respect to the above rejections, the arguments of the response filed 02/27/07 have been fully considered, but are not found persuasive. While the Office appreciates the thorough analysis of the cited prior art in the response, it is pointed out that the arguments are directed to teachings in the references which are not relied upon in the rejection. In particular, the response argues with respect to the specific amplification parameters of Wiesner, such as use of short cDNAs and certain primer concentrations. Firstly, such parameters do not correspond to any claim limitations. Secondly, Wiesner is cited not for the particulars of the multiplex amplification reaction, but for the teaching of quantitatively amplifying a plurality of nucleic acids, wherein an aliquot of the amplification mixture is dispensed or withdrawn at plural stages during the

amplification regimen. Schumm et al. disclose that the skilled artisan was well aware of the multiplex amplification conditions required to amplify at least thirteen amplification templates. There would have been both suggestion and reasonable likelihood of success for combining these teachings to achieve the expected benefits of the quantitative results of Wiesner and the multiplex reactions of Schumm et al. having at least thirteen templates. Thus the rejections are maintained.

4. No claims are free of the prior art.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth R. Horlick whose telephone number is 571-272-0784. The examiner can normally be reached on Monday-Thursday 6:30AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571-272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kenneth R. Horlick, Ph.D.
Kenneth R Horlick
Primary Examiner
Art Unit 1637

04/26/07